

## CLAIMS

1. Method for perforating a non-woven sheet (N) of fibers or filaments, according to which said sheet (N) is brought into contact with a perforated cylinder (2), and at least one perforation is produced in the sheet (N) by means of at least one perforating member (9) that is driven simultaneously in translation and in rotation about its own axis, characterized, on one hand, in that there is previously fixed on the perforated cylinder (2) at least one insert (8), including, at one end, a plane surface (S), and provided with a recess (8b) that emerges in said plane surface (S), and which has a sharp edge (8g) formed by the intersection of the inner surface (8f) of said recess (8b) with said plane surface (S) and, on the other hand, in that a perforation in the non-woven sheet (N) is obtained by cutting out a portion (P) of the non-woven sheet (N) by shearing of the fibers or filaments of the non-woven sheet (N), between the sharp edge (8g) of said insert (8) and a perforating member (9) driven simultaneously in translation and in rotation about its own axis.

2. Method according to claim 1, characterized in that, at the time of a perforating operation, said perforating member (9) is driven simultaneously in rotation in a first direction of rotation (R1) and in translation in a first direction (H) opposite from the perforated cylinder (2), and then is driven simultaneously in rotation in a second direction of rotation (R2) opposite from said first direction of rotation and in translation in the direction (G) opposite from the first direction of translation (H).

3. Method according to claim 1 or 2, characterized in that each insert (8) is removable.

4. Method according to claim 3, characterized in that each insert (8) is fixed by screwing onto the perforated cylinder (2).

5. Method according to claims 2 (and) 4, characterized in that the direction of screwing of each insert (8) corresponds to the first direction of rotation (R1) of a perforating member (9).

6. Method according to claim 1, characterized in that each insert (8) comprises a plane flange (8e).

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7. Method according to claim 1, characterized in that the recess (8b) of an insert (8) has a diameter that increases starting from the sharp edge (8g).

8. Apparatus for perforating a non-woven sheet (N) of the type  
5 comprising a perforated cylinder (2) and at least one perforating member (9) which is capable of being driven simultaneously in translation and in rotation about its own axis, characterized in that the perforated cylinder (2) is equipped with at least one insert (8), including, at one end, a plane surface (S), and provided with a recess (8b) that emerges in said plane surface (S),  
10 and which has a sharp edge (8g) formed by the intersection of the inner surface (8f) of said recess (8b) with said plane surface (S), and in that the perforating tool (9) is capable of cooperating with said sharp edge (8g) so as to cut by shearing the fibers or filaments of the non-woven sheet (N), between the sharp edge (8g) of said insert (8) and said perforating member  
15 (9) driven simultaneously in translation and in rotation about its own axis.

9. Apparatus according to claim 8, characterized in that said perforating member (9) is designed to be driven in rotation in a first direction of rotation (R1) when it is moved in translation in a first direction (H) opposite from the perforated cylinder (2), and to be driven in rotation in a second  
20 direction of rotation (R2) opposite from said first direction of rotation during its movement in translation in the direction (G) opposite from the first direction of translation (H).

10. Apparatus according to claim 8 or 9, characterized in that each insert (8) is removable.

25 11. Apparatus according to claim 10, characterized in that each insert (8) is fixed by screwing onto the perforated cylinder (2).

12. Apparatus according to claims 9 (and) 11, characterized in that the direction of screwing of each insert (8) corresponds to the first direction of rotation (R1) of a perforating member (9). ←

30 13. Apparatus according to claim 8, characterized in that each insert (8) comprises a plane flange (8e).

14. Apparatus according to claim 1, characterized in that the recess

(8b) of an insert (8) has a diameter that increases starting from the sharp edge (8g).

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